

NO-A191 955

KINETIC ENERGY FINNED PROJECTILE AERODYNAMIC HEATING  
MEASUREMENT(U) DEUTSCHE FORSCHUNGSANSTALT FUER LUFT-  
UND RAUMFAHRT E V BRUNS H KRPPLIN 15 DEC 87

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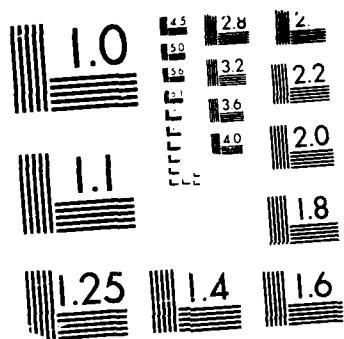
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MICROCOPY RESOLUTION TEST CHART  
 NATIONAL BUREAU OF STANDARDS-1963-A

DFVLR Deutsche Forschungs- und Versuchsanstalt  
für Luft- und Raumfahrt e.V.  
Institute for Experimental Fluid Mechanics

5810-AN.



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December 15, 1987

R & D 5810-AN-01

Contract DAJA 45-87-C-0046

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Title: "Kinetic Energy Finned Projectile Aerodynamic Heating  
Measurement"

### First Interim Report

The message that the research proposal R & D 5810-AN-01 has been awarded was received by DFVLR-AVA on November 23, 1987. DFVLR approval was received on November 4, 1987.

The models to be tested in DFVLR Ludwig tube A and B are under design. Basis for the design is Fig. 5 of the research proposal mentioned above. Present status is one sting-mounted finned after-body with three interchangeable forebodies to provide the different values of  $L_1$ . The models will be machined from Plexiglas<sup>®</sup> as the application of the desired thick wall method for heat transfer measurement requires low thermal conductivity.

The physical dimensions are planned to be  $D = 20$  mm which means a total length of the models of about 350, 450, and 550 mm, respectively. The test section of the Ludwig tube is equipped with windows of 320 mm diameter. Thus, each of the models has to be tested in two runs for each flow condition with different sting length in order to allow the observation of the whole model surface.

Machining of the models is planned in March 1988.

*H. Schöler*

H. Schöler  
(Principle Investigator)

*H.-P. Kreplin*

H.-P. Kreplin  
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